

20030830.ba v03_n534.bam.20030830

>From ???@??? Sat Aug 30 11:31:38 2003 -0500
Message-Id: <200308301631.h7UGVGbv013140@sco.theporch.com>
Date: Sat, 30 Aug 2003 11:30:50 CDT
From: Old Tube Radios <boatanchors@theporch.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: BOATANCHORS digest 3534

BOATANCHORS Digest 3534

Topics covered in this issue include:

- 1) Conar the Insignificant (scope)
by Michael N Hopkins <mnhopkins@juno.com>
- 2) RE: GB> Decision Document on Lead Solder
by "Bill Hawkins" <bill@iaxs.net>
- 3) RE: Conar the Insignificant (scope)
by Morris Odell <morriso@vifm.org>
- 4) Re: TV whodunnit
by "J.D. Mac Aulay, WQ8U" <jmac6235@yahoo.com>
- 5) SpyRadios Group
by "Richard Dillman" <ddillman@igc.org>
- 6) Re: GB> Decision Document on Lead Solder
by "Arden Allen" <gumbear@pacbell.net>
- 7) Re: TV whodunnit
by wb3fau@att.net
- 8) TV who / you're the champs!
by "Marty's Refl. Drop" <polepeeg@aaa4rm.ba-watch.org>
- 9) Need Info: Stancor 558029 Transformer
by "Merz Donald S" <merz.ds@mellon.com>
- 10) Looking for info....
by "Sandy W5TVW" <ebjr@i-55.com>
- 11) Switch Ratings... ac vs dc??
by "Herbert M. Rosenthal" <herbrose@comcast.net>
- 12) RE: Switch Ratings... ac vs dc??
by "Bill Hawkins" <bill@iaxs.net>
- 13) Re: Switch Ratings... ac vs dc??
by "Arden Allen" <gumbear@pacbell.net>
- 14) Re: Switch Ratings... ac vs dc??
by "Arden Allen" <gumbear@pacbell.net>
- 15) Re: Switch Ratings... ac vs dc??
by John Dilks - K2TQN <oldradio@worldnet.att.net>
- 16) Tr: Switch Ratings... ac vs dc??
by =?iso-8859-1?Q?Andr=E9_Guibert?= <aguibert@sympatico.ca>
- 17) Re: Switch Ratings... ac vs dc??
by jan@skirrow.org
- 18) Re: Switch Ratings... ac vs dc??

by WA5CAB@cs.com

To: Old Tube Radios <boatanchors@theporch.com>
Date: Thu, 28 Aug 2003 17:14:40 -0500
Subject: Conar the Insignificant (scope)
Message-ID: <20030828.171441.-409503.0.MNHopkins@juno.com>
MIME-Version: 1.0
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit
From: Michael N Hopkins <mnhopkins@juno.com>

Our collective flirtation with the Conar Twins, if adding nothing to my opinion of our root nature, at least taught me that Conar and NRI, the electronics course people, are the same.

So, it follows that my mystery oscilloscope, labled "NRI," would be a Conar.

That did not help at all on the Internet. But maybe someone knows something about it, or, more to the point, about focus circuits?

This relic acutally lit up. And it shows a spot but, of course, it has no trace. And the spot is fuzzy and not focusable. That led me to a randomized study of vintage o'scope circuits and to the conclusion there should be 1000 to 1500 volts for a 5UPI. I have yet to find it, but after putting it back in the case I learned the voltage is above ground. Glad I didn't touch it at the plate of the 1-somethign high voltage rectifier.

But:

Can an O' scope have ANY spot without full voltage?

---and---

Is there a usual suspect for fuzzy spots?

73 de ab5L, michael, student of of Tecraft, and 6M's Golden Age: 1956-58
MNHopkins@JUNO.com, Box 226841, Dallas, TX 75222

From: "Bill Hawkins" <bill@iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "'Glowbugs'" <glowbugs@piobaire.mines.uidaho.edu>
Subject: RE: GB> Decision Document on Lead Solder
Date: Thu, 28 Aug 2003 18:32:51 -0500

Message-ID: <002501c36dbc\$b2f84480\$290aa8c0@darius>
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Ah, well, time hangs heavy as a looong test progresses.

Talk to a plumber about lead solder. One I talked to 15 years ago said the plot to indict solder was staged by the plastic pipe producers. Copper is still with us, but the solder alloy has changed.

Then there are those communities which still have lead pipes for water distribution, just like the Romans.

It is not a good idea to eat compounds of lead, as it is not a good idea to eat compounds of mercury, or even touch methyl mercury. This established fact. But it is too difficult for the people who are ruled by their emotional brain to understand the concept of compounds. So what we hear is that the metal itself is dangerous when it certainly is not, in its elemental state.

Expose lead or mercury to the environment with its acid rain and polluted streams, and the bad compounds begin to form. So the right thing to do is to keep lead out of the environment.

Now that the idiots have bred more idiots that can't tell a virus attachment from a fully described file (your details, anyone?) the only way to keep lead out of the environment is to ban it completely from non-commercial use. If anyone in the government was thinking instead of emoting, they'd be talking about licenses to use lead as an alloy, available for a small sum of money for small quantities of lead - under 10 pounds.

Not that we're gonna have anything to say about it ...

Regards,
Bill Hawkins

Gotta admire the guys that proved money causes cancer. Since politics is all about money (except for the part about ego) it's not surprising that the finding was unpopular.

Date: Fri, 29 Aug 2003 09:14:55 +1000
From: Morris Odell <morriso@vifm.org>
Subject: RE: Conar the Insignificant (scope)

To: Old Tube Radios <boatanchors@theporch.com>

Message-id:

<07A064EA6042D4118A62009027F70E77339E5F@nt_exchange.vifp.monash.edu.au>

MIME-version: 1.0

Content-type: text/plain; charset=iso-8859-1

Content-transfer-encoding: 7BIT

Michael Hopkins wrote:

> after putting it back in the case I learned the voltage is
> above ground.
> Glad I didn't touch it at the plate of the 1-somethign high voltage
> rectifier.

Indeed. The usual practice is to have a negative HV supply connected to the grid/cathode end of the CRT and then divided down (more positive) for the various focus & accelerating electrodes. By the time you get to the deflection plates, you are at about +200 which is fine for matching to tube plates. The final anode is at a similar potential to the defl plates, and then the PDA (if present) gets its own positive HV supply.

>

> But:

>

> Can an O' scope have ANY spot without full voltage?

Yes, but it needs SOME positive accelerating potential relative to the cathode. At a couple of hundred volts even a 5 inch tube will show some green blur, unfocussable though because of improper "electron optics" fields between the various electrodes. Try putting it on a tube tester and you will see this. I was able to get a reasonably sharp spot on a little 3 inch tube in an AVO tube tester with +400 on the final, +100 screen voltage on the focus electrode and the heater and grid connected appropriately.

>

> ---and---

>

> Is there a usual suspect for fuzzy spots?

Gas in the tube can cause this, as can a distorted electrode structure.

73 de Morris VK3DOC, student of Tektronics and oscilloscopy's golden age...:-)

>

> 73 de ab5L, michael, student of of Tecraft, and 6M's Golden

> Age: 1956-58

> MNHopkins@JUNO.com, Box 226841, Dallas, TX 75222

>

Message-ID: <20030829010804.30739.qmail@web40809.mail.yahoo.com>
Date: Thu, 28 Aug 2003 18:08:04 -0700 (PDT)
From: "J.D. Mac Aulay, WQ8U" <jmac6235@yahoo.com>
Subject: Re: TV whodunnit
To: Old Tube Radios <boatanchors@theporch.com>
MIME-Version: 1.0
Content-Type: multipart/alternative; boundary="0-386309778-1062119284=:30722"

--0-386309778-1062119284=:30722
Content-Type: text/plain; charset=us-ascii

Marty,
The e-mail link doesn't work but that doesn't matter in such matters :-)
It is obviously a pre-Muntz known to those in the know in Newport KY as the Months
(as in months and months of payments) or the Latin: Munz (who knows now - must ask
in Rome) and the small tube version was the Munzkin. You upper Montgomery Rd
Cincinnati folks wouldn't understand.
In any case, I think we should all have a cold 807 and comtemplate this.
Mac

"Marty's Refl. Drop" <polepeeg@aa4rm.ba-watch.org> wrote:

Look familiar to anyone?--->

<http://qsl.asti.net/TV/BA.html>

Do you Yahoo!?
Yahoo! SiteBuilder - Free, easy-to-use web site design software
--0-386309778-1062119284=:30722
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

* * * * *
* ---REMAINDER OF MESSAGE TRUNCATED--- *
* This post contains a forbidden message format *
* (such as an attached file, a v-card, HTML formatting) *
* Mail Lists at theporch.com only accept PLAIN TEXT *
* If your postings display this message your mail program *
* is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *

--0-386309778-1062119284=:30722--

From: "Richard Dillman" <ddillman@igc.org>
To: Old Tube Radios <boatanchors@theporch.com>

Date: Thu, 28 Aug 2003 19:40:05 -0700
MIME-Version: 1.0
Subject: SpyRadios Group
Message-ID: <3F4E5A95.4430.C4931A@localhost>
Content-type: text/plain; charset=US-ASCII
Content-transfer-encoding: 7BIT
Content-description: Mail message body

I've created a group on Yahoo called SpyRadios with the hope that it will be a forum for information and advice about the acquisition, restoration and the use of these radios on the air. Information about who has which radios, what they have found out about them and what their individual quirks are will, I hope, also be posted. The information will be archived for group members to reference.

There seems to be enough interest in these radios to make the creation of the group worthwhile. Plans are already being laid for the use of GRC-109s with GRA-71 code burst equipment on the air!

The group is set up to allow postings only from members so spam should not be a problem.

To join go to:

<http://groups.yahoo.com/group/SpyRadios/>

and click on the Join This Group button.

Regards,

RD

=====
Richard Dillman, W6AWO
Member of the Maritime Radio Historical Society
<<http://www.radiomarine.org>>
Collector of Heavy Metal:
Harleys, Willys and Radios over 100lbs.
=====

Message-ID: <003101c36dde\$2c8c5ef0\$98e47443@KB6NAX>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "'Glowbugs'" <glowbugs@piobaire.mines.uidaho.edu>
Subject: Re: GB> Decision Document on Lead Solder
Date: Thu, 28 Aug 2003 20:29:37 -0700

MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

> Ah, well, time hangs heavy as a looong test progresses.

Very well said, Bill

Arden

Message-Id: <200308290520.h7T5KFbv008100@sco.theporch.com>
From: wb3fau@att.net
To: Old Tube Radios <boatanchors@theporch.com>
Cc: "Marty's Refl. Drop" <polepeeg@aa4rm.ba-watch.org>,
Old Tube Radios <boatanchors@theporch.com>
Subject: Re: TV whodunnit
Date: Fri, 29 Aug 2003 05:20:07 +0000

How about Sentinel?

>
> Look familiar to anyone?--->
>
> <http://qsl.asti.net/TV/BA.html>
>

Date: Fri, 29 Aug 2003 07:14:47 -0400 (EDT)
From: "Marty's Refl. Drop" <polepeeg@aa4rm.ba-watch.org>
Message-Id: <200308291114.HAA01101@aa4rm.ba-watch.org>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: TV who / you're the champs!

Yesterday's URL on TV whodunnit got placed w. different
name for 4 ea. popular posting spots

(just unix symbloic links [MS shortcuts] for bit weenies)

Here's a neat result

hits	info-spot
142	boatanchors@
51	rec.radio.amateur.boatanchors

17 rec.antiques.radio+phono
2 SARS (knob wax reflector)

You're the champs!!

See ya in Shelby

Message-ID: <20030829155625.10875.qmail@mellon.com>
Content-Class: urn:content-classes:message
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: base64
Subject: Need Info: Stancor 558029 Transformer
Date: Fri, 29 Aug 2003 11:57:38 -0400
From: "Merz Donald S" <merz.ds@mellon.com>
To: Old Tube Radios <boatanchors@theporch.com>

RG91cyBhbnlvbmUgaGF2ZSBhbnkgZGF0YSBvbiBTdGFuY29yIHRyYW5zM9ybWVvIG51bWJlciA1
NTgwMjkuIFRoXMGaXMGbm90IGEGbm9ybWFsIFN0YW5jb3INCm51bWJlciwgYnV0IHRoYXQgaXMg
d2hhdCB0aGUgdGFnIHNheXMuIEl0IHNob3VsZCBiZSBhbiBhdWRpbyBkcm12ZXIgaW5nIGZy
b20gdGh1IDE5MzBzLg0KDQpBbnkgaGVscCBhcHByZWNPYXRlZC4NC1RoYW5rcy4NCjczLCBEb24g
TWVyeiwgTjNSSFQgDQpESVNDTEFJTUVS0iANC1RoZSBpbmZvcmlhdGlvbiBjb250YWluZWQgaW4g
dGhpcyBlLW1haWwgbW51IGJlIGNvbmZpZGVudGlvbCBhbmQgaXMGaW50ZW5kZWQgc29sZWx5IGZv
ciB0aGUgdXNlIG9mIHRoZSBuYW1lZCBhZGRyZXNzZWUuIEFjY2VzcywgY29weWluZyBvciByZS11
c2Ugb2YgdGh1IGUtbWVpbCBvciBhbnkgaW5mb3JtYXRpb24gY29udGFpbmVkJHRoZXJlaW4gYnkg
YW55IG90aGVyIHB1cnNvbiBpcyBub3QgYXV0aG9yaXplZC4gSWYgeW91IGFyZSBub3QgdGh1IGlu
dGVuZGVkIHJlY2lwaWVudCBwbGVhc2UgY29udGF0aW51IHVzIGl0bWVkaW50ZWx5IGJ5IHJldHVybmlu
ZyB0aGUgdZS1tYWlsIHRvIHRoZSBvcmlnaW5hdG9yLihBKSANCiANCg==

Message-ID: <001b01c36e6f\$688863e0\$14a1cdd1@s0023531634>
From: "Sandy W5TVW" <ebjr@i-55.com>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Looking for info....
Date: Fri, 29 Aug 2003 15:52:05 -0500
MIME-Version: 1.0
Content-Type: text/plain;
 charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Want information on Heathkit EUW-16A Voltage Reference Source power supply.
At least the schematic and the setup instructions, specifications.

73,
Sandy W5TVW

Message-ID: <3F4FE019.62B72FE9@comcast.net>
Date: Fri, 29 Aug 2003 17:22:10 -0600
From: "Herbert M. Rosenthal" <herbrose@comcast.net>
MIME-Version: 1.0
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Switch Ratings... ac vs dc??
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

I am laying out a small distribution, fusing, and switching panel to operate my equipment (small station) from a sealed lead acid (SLA) battery when the line power is interrupted. I've run the YAESU 100w FT 840 on cw for hours and hours with just a manually connected 7 AH 12 volt gel cell instead of the normal 12 v from the ASTRON AC primary supply, so the 24 AH gel cell (new pullout) that I bought at last week's Hamfest here in Albuquerque, should do me just fine for the occasional outage we have here... And if there is a prolonged outage, I'll bring in a car battery.

The battery will also operate a small 12v/120vac inverter, when needed, to rotate the antenna with its CDR antenna control... then I will turn the inverter off. When power is restored, a small dedicated SLA charger will do its 2 step thing-charge at 14.5 volts and then float (forever) at 13.8v, the prescribed manner to charge a gel cell.

Switching from house power to 12 V (13.8) volt operation will be manual, so I will never be charging with the equipment on-which can fake the SLA smart charger into under/over charging (QST 2001 p 43).. I'll also be able to operate the MFJ keyer, TimeWave DSP filter, the LDG auto antenna tuner, the 2m transceiver and the scanner... all will operate on 12vdc instead of their wall warts, plus the ASTRON 20A supply I normally use.

My panel will have a bunch of fuses and switches, provisions for a 12v power cable to each device it will operate. There will also be in-line fuses right at the battery in both the plus and minus lines for safety.... maybe an LED or two.

Which brings me to my question: a given switch-say a normal spst toggle switch-may have a rating of 3A/240VAC and 6A/120vac, but the dc rating may only be 0.5 to 1 a @ 24 vdc... try using one of these switches to break a dc current equal to its rated ac current, and it's toast.

I'm pretty sure that's because when an ac switch opens, any arc will be extinguished at the next zero voltage crossing, and by the time the ac has again reached its peak, the switch contacts are open far enough to prevent arcing. But in the dc circuit, there is nothing to quench the arc, so the current continues to flow as the switch opens.

1. Am I anywhere near correct in the zero crossing bit, and
2. is there any rule of thumb to derate an ac switch for use on dc, given the circuit voltage?

Just to be sure, I will use automobile switches from RS or Auto Zone that are rated about 20A@ 12vdc, but I have many ac toggles in the junk boxes... too bad.

Herb Rosenthal W5AN

From: "Bill Hawkins" <bill@iaxs.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: RE: Switch Ratings... ac vs dc??
Date: Fri, 29 Aug 2003 22:03:17 -0500
Message-ID: <00a101c36ea3\$42bccd20\$290aa8c0@darius>
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Herb,

You are correct about zero crossings. But the old wall switches had a spring arrangement that yanked one contact away from the other so that a DC arc could not form without a large inductor in the circuit. Maybe that was because there was still DC around in those days.

Another source of fine battery equipment that may not occur to someone in the desert southwest is a marine supply store. I've used BoatUS for some good stuff. They also have cable glands for a water-tight seal where a cable enters the house. Google should find some web sites. Marine circuit breakers use a hydraulic delay so they don't trip on spikes.

Y'know, DC relay circuits held down the arcing with RC snubbers, or even diodes if you didn't care how fast the relay dropped out. If you have a large supply of toggles, you could maybe try the experiment ... A scope should tell you if it's a clean break or an arc.

Regards,
Bill Hawkins

Message-ID: <001801c36eb2\$15d99180\$95e57443@KB6NAX>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>

Subject: Re: Switch Ratings... ac vs dc??
Date: Fri, 29 Aug 2003 21:46:11 -0700
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Hi Herb;

1. Am I anywhere near correct in the zero crossing bit[?]

Correctomundo. The arc in the DC circuit instance is maintained by the small but obviously appreciable inductance in the circuit wiring. Add a little more inductance and you have an arc welder.

2. is there any rule of thumb to derate an ac switch for use on dc, given the circuit voltage?

I suppose so but it's really based on how long the contacts', depending on their metallurgy and mass (not to mention the surrounding insulation), are able to sustain the heat buildup from an arc as the switch designer has no way of knowing how much inductance is in your circuit it's anybody's guess as to how long the arc would be sustained. I guess manufacturers derive their DC rating empirically.

There is a big HOWEVER in all of this. If you connect a *snubber*, i.e. a capacitor with some resistance in series, across the switch contacts upon opening the voltage across the contacts will rise slowly giving the contacts the chance of escaping an arc before they are fully open. Which then, obviously, makes the manufacturer's ratings moot. The purpose of the resistor, in this case, is to limit the capacitor discharge current when the switch is closed.

Arden Allen
KB6NAX
Vallejo, CA 94590
gumbear@pacbell.net

Message-ID: <003a01c36eb4\$edeb1100\$95e57443@KB6NAX>
From: "Arden Allen" <gumbear@pacbell.net>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Re: Switch Ratings... ac vs dc??
Date: Fri, 29 Aug 2003 22:07:30 -0700
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"

Content-Transfer-Encoding: 7bit

Bill sez:

> You are correct about zero crossings. But the old wall switches had a
> spring arrangement that yanked one contact away from the other so that
> a DC arc could not form without a large inductor in the circuit. ...

And I sez, there ain't no spring faster than an arc.

>
> Y'know, DC relay circuits held down the arcing with RC snubbers, or
> even diodes if you didn't care how fast the relay dropped out. If you
> have a large supply of toggles, you could maybe try the experiment ...
> A scope should tell you if it's a clean break or an arc.

Seeing the arc on a scope may be difficult. Put a neon bulb with a limiting resistor across the contacts and turn out the lights. If you see the bulb flash you know you have an arc potential in the works. If you can eliminate the flash you licked the problem.

Arden Allen
KB6NAX
Vallejo, CA 94590
gumbear@pacbell.net

Message-Id: <5.1.1.6.0.20030830093624.02a1d880@postoffice.worldnet.att.net>
Date: Sat, 30 Aug 2003 09:57:40 -0400
To: Old Tube Radios <boatanchors@theporch.com>
From: John Dilks - K2TQN <oldradio@worldnet.att.net>
Subject: Re: Switch Ratings... ac vs dc??
Cc: sales@westmountainradio.com
Mime-Version: 1.0
Content-Type: text/plain; charset="us-ascii"; format=flowed

At 05:22 PM 8/29/03 -0600, Herbert M. Rosenthal wrote:

>I am laying out a small distribution, fusing, and switching panel to
>operate my
>equipment (small station) from a sealed lead acid (SLA) battery when the line
>power is interrupted. I've run the YAESU 100w FT 840 on cw for hours and hours
>with just a manually connected 7 AH 12 volt gel cell instead of the normal
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>from the ASTRON AC primary supply, so the 24 AH gel cell (new pullout) that I
>bought at last week's Hamfest here in Albuquerque, should do me just fine for
>the occasional outage we have here... And if there is a prolonged outage, I'll
>bring in a car battery.

Hi Herb,

I am building a similar setup for my mobile radio museum. I would like to suggest you consider incorporating the RigRunner.
<http://www.westmountainradio.com/RIGrunner.htm>

I picked up a model 4012 which has an alarm built in for reverse voltages, and indicator lights for low and high battery. You'll have to read the specs. I found the unit well designed and easy to mount. You do need the proper crimper though. I used the cheap type with poor results. Two nice things about it is individual fuse protection, and everything in one place.

I have yet to figure out what I'm going to use for switching between two separate batteries and an AC supply, so I would like to hear back once you work it out for yourself. I would like to charge the second battery while on the road, then separate them once stopped. An automatic control would be nice. I found some automotive solid state relays at a hamfest, but I'm not sure how they will work with RF devices.

** This kind of a product seems like a natural for West Mountain Radio to add to their line.

As far as battery switching, the boating industry has many types. I understand NASCAR cars carry second batteries that the driver can switch, so maybe there is some data out there on how they do it.

73, John Dilks, K2TQN
<http://www.eht.com/oldradio/museum/>

>The rest of Herb's message....

>

>The battery will also operate a small 12v/120vac inverter, when needed, to
>rotate the antenna with its CDR antenna control... then I will turn the
>inverter

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>thing-charge at 14.5 volts and then float (forever) at 13.8v, the prescribed
>manner to charge a gel cell.

>

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>operate
>the MFJ keyer, TimeWave DSP filter, the LDG auto antenna tuner, the 2m
>transceiver and the scanner... all will operate on 12vdc instead of their wall
>warts, plus the ASTRON 20A supply I normally use.

>

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>cable to each device it will operate. There will also be in-line fuses

>right at
>the battery in both the plus and minus lines for safety.... maybe an LED
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>-----
>
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>switch-may have a rating of 3A/240VAC and 6A/120vac, but the dc rating
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>be 0.5 to 1 a @ 24 vdc... try using one of these switches to break a dc
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>
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>extinguished at the next zero voltage crossing, and by the time the ac has
>again
>reached its peak, the switch contacts are open far enough to prevent arcing.
>But in the dc circuit, there is nothing to quench the arc, so the current
>continues to flow as the switch opens.
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>1. Am I anywhere near correct in the zero crossing bit, and
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>2. is there any rule of thumb to derate an ac switch for use on dc, given the
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>rated about 20A@ 12vdc, but I have many ac toggles in the junk boxes...
>too bad.
>
>Herb Rosenthal W5AN

Message-ID: <000701c36f10\$aff90bc0\$8482d1d8@b1yhp64>
From: =?iso-8859-1?Q?Andr=E9_Guibert?= <aguibert@sympatico.ca>
To: Old Tube Radios <boatanchors@theporch.com>
Subject: Tr: Switch Ratings... ac vs dc??
Date: Sat, 30 Aug 2003 12:06:33 -0400
MIME-Version: 1.0
Content-Type: text/plain;
charset="iso-8859-1"
Content-Transfer-Encoding: 7bit

Bonjour to All
Dry contact relays should be mounted so the contacts are in a vertical plane
for DC use
as the arc will be stretched instead of being confined on the upper
contacts.
Several WW2 Boatanchors have the switching on the negative side of the
power/control lines.

Andre

Message-Id: <5.2.0.9.2.20030830090250.020358b0@mail.islandnet.com>
Date: Sat, 30 Aug 2003 09:14:50 -0700
To: Old Tube Radios <boatanchors@theporch.com>
From: jan@skirrow.org
Subject: Re: Switch Ratings... ac vs dc??
Mime-Version: 1.0
Content-Type: text/html; charset="us-ascii"

<p><pre>
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

* To the SENDER of this email: *

* Please don't use HTML tags or 'rich text' here. *
* Set your emailer to turn that off. *

</pre><p>

<html>

<body>

At 04:22 PM 8/29/03, Herbert M. Rosenthal wrote:

<blockquote type=cite class=cite cite>I am laying out a small
distribution, fusing, and switching panel to operate my

equipment (small station) from a sealed lead acid (SLA) battery when the
line ...</blockquote>

You might consider a relay rather than using the toggle
directly.

There are high current relays available that can be found in some surplus
emporia. The DY-17 dynamotor, for example, has a couple of very nice ones
(used with the ART-13) but these are 24VDC.

Also, you could consider using a contactor of the sort found in cars and
trucks. These are 12VDC and should be easy to find at a reasonable price
used or new. I have a couple of ones that I suspect are from the starter
circuit on a small engine (possibly marine). They are rated well into the
current you'd switch, and are a reasonable physical size. I have no idea
what their duty cycle is however.

Although not relevant to your situation, but possibly interesting: I have
a contactor that came out of a telephone exchange power supply that was
used to charge and switch emergency backup batteries. It is rated around
300A or so at 48VDC. What is neat about it is that it uses a fixed
magnetic field across the contact area to interrupt the arc. The contacts
are shaped like two flattened 'V's with the flattened pointy parts
forming the main contact area. When the contact opens, and arc forms and
the magnetic field moves it away from the closest point and the arc

extinguishes. This relay was made by Prestolite, who make (made?) a range of high current DC products for starter motors etc.

Jan

<x-sigsep><p></x-sigsep>

<div align="center">=====

On Canada's Beautiful Wet Coast

Visit:

http://skirrow.org/Boatanchors/

And:

http://kahuna.sdsu.edu/~mechtron/PremRxPage/

=====

</div>

</body>

</html>

From: WA5CAB@cs.com

Message-ID: <30.45ea573e.2c822b1a@cs.com>

Date: Sat, 30 Aug 2003 12:30:18 EDT

Subject: Re: Switch Ratings... ac vs dc??

To: Old Tube Radios <boatanchors@theporch.com>

MIME-Version: 1.0

Content-Type: multipart/alternative;

boundary="part1_30.45ea573e.2c822b1a_boundary"

--part1_30.45ea573e.2c822b1a_boundary

Content-Type: text/plain; charset="US-ASCII"

Content-Transfer-Encoding: 7bit

Jan's idea is a good one. W. W. Grainger used to offer a good high-current continuous duty 12VDC coil relay as well. Haven't looked lately. One thing to avoid, though, is an automobile starter relay of the type that you can pick up at auto parts stores. Unless clearly marked "Continuous Duty", they aren't. They typically have heavy springs and high current, low resistance coils and will get quite hot after a few minutes of operation.

In a message dated 8/30/2003 11:17:23 AM Central Daylight Time,

jan@skirrow.org writes:

> You might consider a relay rather than using the toggle directly.

>

> There are high current relays available that can be found in some surplus

> emporia. The DY-17 dynamotor, for example, has a couple of very nice ones (used

> with the ART-13) but these are 24VDC.

>

> Also, you could consider using a contactor of the sort found in cars and
> trucks. These are 12VDC and should be easy to find at a reasonable price used or
> new. I have a couple of ones that I suspect are from the starter circuit on
> a small engine (possibly marine). They are rated well into the current you'd
> switch, and are a reasonable physical size. I have no idea what their duty
> cycle is however.
>
> Although not relevant to your situation, but possibly interesting: I have a
> contactor that came out of a telephone exchange power supply that was used to
> charge and switch emergency backup batteries. It is rated around 300A or so
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> the contact area to interrupt the arc. The contacts are shaped like two
> flattened 'V's with the flattened pointy parts forming the main contact area.
> When the contact opens, and arc forms and the magnetic field moves it away from
> the closest point and the arc extinguishes. This relay was made by
> Prestolite, who make (made?) a range of high current DC products for starter
motors
> etc.
>

73

Robert Downs - Houston
<<http://www.wa5cab.com>>
<wa5cab@cs.com>

--part1_30.45ea573e.2c822b1a_boundary
Content-Type: text/plain; charset=us-ascii
Content-Transfer-Encoding: 7bit

```
* * * * *
*      ---REMAINDER OF MESSAGE TRUNCATED---      *
*      This post contains a forbidden message format      *
*      (such as an attached file, a v-card, HTML formatting) *
*      Mail Lists at theporch.com only accept PLAIN TEXT      *
*      If your postings display this message your mail program *
*      is not set to send PLAIN TEXT ONLY and needs adjusting *
* * * * *
```

--part1_30.45ea573e.2c822b1a_boundary--

End of BOATANCHORS Digest 3534
